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10/780,011

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John D. Wratten

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EXAMINER

PATEL, HEMANT SHANTILAL

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/780,011	Applicant(s) WRATTEN, JOHN D.	
	Examiner Hemant Patel	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-14, 16-21, 23 is/are rejected.
- 7) ☒ Claim(s) 15, 22 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2, 9, 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. These claims recite "computer readable medium" but the respective parent claims 1, 8, 17 recite to claim "method". It is not clear if method is claimed of computer readable medium is claimed.
3. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It recites (ll. 4-5) "wherein the first element is located at a transition from the circuit switched network the packet switched network". It is not clear about the first element being located at a transition from which network i.e. circuit switched or packet switched.
4. Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It recites (ll. 2) "receiving the message from a third element" and parent claim 17 (ll. 3) recites "sending a message from a first element". It is not clear if a message from a first element and the message from a third element are the same or different.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Solomon (US Patent No. 5,974,043).

Regarding claim 1, Solomon teaches of a method for maintaining quality of service for calls routed between a circuit switched network and a packet switched network, the method comprising:

determining that a call path for a call between a first device (Fig. 11, item 355) and a second device (Fig. 11, item 355 at the other end) includes at least one segment over a circuit switched network (Fig. 11, item 410) and at least one segment over a packet switched network (Fig. 11, item 400);

determining that the call path may be rerouted to bypass the at least one segment over the circuit switched network (Fig. 12, step 424, 428, 430; col. 19, ll. 9-28, detecting acknowledgement signal); and

rerouting the call path to bypass the segment over the circuit switched network (col. 19, ll. 23-41; disconnect PSTN and rerouting call through WAN; also col. 7, ll. 20-46).

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-7, 17-18, 21, 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Armistead (US Patent No. 6,781,983 B1).

Regarding claim 1, Armistead teaches of a method for maintaining quality of service for calls routed between a circuit switched network and a packet switched network, the method comprising:

determining that a call path for a call between a first device and a second device includes at least one segment over a circuit switched network and at least one segment over a packet switched network (Figs. 4-6; paths A, B, C, D; col. 3, ll. 51-col. 4, ll. 14, gateways with network watching and switching capability to switch paths);

determining that the call path may be rerouted to bypass the at least one segment over the circuit switched network (col. 7, ll. 7-34, determining packet switch parameters and determining to bypass circuit switch); and

rerouting the call path to bypass the segment over the circuit switched network (col. 7, ll. 8-11, 23-32; making packet switched connection; col. 7, ll. 59-col. 8, ll. 5, rerouting to packet switched connection).

Regarding claim 2, Armistead teaches of central office that inherently includes stored program computer to process calls (col. 4, ll. 21-24).

Regarding claim 3, Armistead teaches of the method, wherein the call path includes a first path for carrying bearer traffic and a second path for carrying signaling messages, and wherein rerouting the existing call path comprises rerouting the first path (col. 7, ll. 59-col. 8, ll. 5; bearer connection is RTP path and signaling connection RTCP path; col. 8, ll. 63-col. 9, ll. 3, using control channel separate from voice channel).

Regarding claim 4, Armistead teaches of the method, wherein determining that the call path may be rerouted to bypass the at least one segment over the circuit switched network comprises:

 sending a message from a first element in the call path through a backward signaling channel for the call path (Figs. 4, 6 item 38; Fig. 5, item 40 as initiating gateway i.e. first element sending control message), wherein the first element is located at a transition from the circuit switched network the packet switched network (located at transition from circuit switched network and packet switched network; inherent for gateways to provide transition in either direction), and wherein the message indicates that the call path transitions from the circuit switched network to the packet switched network at the first element (transitioning from circuit switch paths B, C, D to packet switch);

 receiving the message at a second element in the call path (Figs. 4-5, item 36; Fig. 6, item 42 as receiving gateway i.e. second element receiving control message), wherein the second element is located at a transition from the packet switched network

to the circuit switched network (located at transition from packet switched network to circuit switched network; inherent for gateways to provide transition in either direction); and

thereafter negotiating between the first and second elements to determine if the call path can be rerouted to bypass the at least one segment over the circuit switched network (signaling between initiating and receiving gateways and reverting to packet switched connection) (col. 7, ll. 25-col. 8, ll. 5).

Regarding claim 5, recites details of common data inherent in Internet Protocol (IP) messages about which Armistead is silent. (As per MPEP 2131.01 Multiple Reference 35 U.S.C. 102 Rejections, the Applicant is referred to Loehndorf (US Patent No. 6,094,437) col. 11, ll. 29-41, where it clearly discloses building an IP message with source address (first element), call id (call reference) and hop count for communicating between network nodes).

Regarding claim 6, recites first element (sender of message) is an egress gateway, and second element (receiver of message) is an ingress gateway. These are common terminology in packet switching. (As per MPEP 2131.01 Multiple Reference 35 U.S.C. 102 Rejections, the Applicant is referred to Loehndorf (US Patent No. 6,094,437) col. 11, ll. 1-55, where it discloses edge node that functions as an egress node for transmitting a message and as an ingress node for receiving a message).

Regarding claim 7, recites embedding message within existing call control signaling messages for the call. (As per MPEP 2131.01 Multiple Reference 35 U.S.C. 102 Rejections, the Applicant is referred to Loehndorf (US Patent No. 6,094,437) col.

11, ll. 1-55, where it discloses embedding the message within existing call control messages like L2TP for tunneling a call).

Regarding claim 17, Armistead teaches of a method for rerouting a call path for a call to bypass circuit switched network segments, the method comprising::

sending a message from a first element in a call path to a second element in the call path, wherein the message is sent via a backward signaling channel for the call, and wherein the message indicates that the call path transitions from a circuit switched network to a packet switched network at the first element (col. 7, ll. 35-col. 8, ll. 5; monitoring for QoS level and initiating gateway sending control message indicating desired switch from circuit-switched connection to packet-switched connection; initiating gateway can be any of originating or source of the call side or terminating or destination of the call side, in case of destination side gateway sending a message for initiating switch on a control channel col. 8, ll. 61-col. 9, ll. 3 it is backward channel signaling);

receiving a response to the message from the second element (col. 7, ll. 48-52, receiving acknowledgement); and

communicating with the second element to determine whether to reroute the call path in order to bypass a circuit switched network segment in the call path for the call (col. 11, ll. 45-58; col. 11, ll. 59-col. 12, ll. 5; communicating acknowledgement back to the first element for the first element to determine that the switching action can be performed to bypass circuit switched network connection).

Regarding claim 18, Armistead teaches of central office that inherently includes stored program computer to process calls (col. 4, ll. 21-24).

Regarding claim 21, recites details of common data inherent in Internet Protocol (IP) messages about which Armistead is silent. (As per MPEP 2131.01 Multiple Reference 35 U.S.C. 102 Rejections, the Applicant is referred to Loehndorf (US Patent No. 6,094,437) col. 11, ll. 29-41, where it clearly discloses building an IP message with source address (first element), call id (call reference) and hop count for communicating between network nodes).

Regarding claim 23, Armistead teaches of first element as an egress gateway and second element (receiving gateway) as an ingress gateway (Fig. 5, items 36 and 40 depending on from which side the connection is referred to).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 8-12, 14, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Armistead, and further in view of Loehndorf (US Patent No. 6,094,437).

Regarding claim 8, Armistead teaches of a method for bypassing circuit switched network segments in a call path for a call, the method comprising:

receiving a first message sent from a first element in the call path to a second element in the call path, wherein the message is sent via a backward signaling channel for the call, and wherein the message indicates that the call path transitions from a

circuit switched network to a packet switched network at the first element (col. 7, ll. 35-col. 8, ll. 5; monitoring for QoS level and initiating gateway sending control message indicating desired switch from circuit-switched connection to packet-switched connection; initiating gateway can be any of originating or source of the call side or terminating or destination of the call side, in case of destination side gateway sending a message for initiating switch on a control channel col. 8, ll. 61-col. 9, ll. 3 it is backward channel signaling);

transmitting the message to a next element along the backward signaling channel (obvious to a person of ordinary skill in the art to traverse the message from destination node to originating node via intermediary nodes over backward channel signaling);

sending a second message to the first element in order to determine whether a connection can be formed with the first element in order to bypass a circuit switched network segment in the call path for the call (col. 11, ll. 45-58; col. 11, ll. 59-col. 12, ll. 5; sending acknowledgement back to the first element for the first element to determine that the switching action can be performed to bypass circuit switched network connection).

Armistead does not teach of common practice of starting a timer to determine whether a response to the second message is received from the first element within a predetermined amount of time.

However, in the same field of communication, Loehndorf teaches of use of a timer and its timeout for call control messages (col. 44-65).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Armistead to use the timers and corresponding timeouts for call control messages as taught by Loehndorf so that in a situation that "cause a call or tunnel to be hung until either a human cleared it, or (if a timer was put into the L2TP application layer) the machine clears the call" (Loehndorf, col. 13, ll. 34-36) and if "a timeout condition has occurred, then the LTP edge devices will clear the call" (Loehndorf, col. 13, ll. 64-65).

Regarding claim 9, Armistead teaches of central office that inherently includes stored program computer to process calls (col. 4, ll. 21-24). Loehndorf teaches of network servers (LNs; Fig. 1, items 11, 12, 13, 15 and 16) using stored program computes as well known in the art.

Regarding claim 10, Loehndorf teaches of building an IP message with source address (first element), call id (call reference) and hop count for communicating between network nodes (col. 11, ll. 29-41).

Regarding claim 11, recites transmitting a message similar to that in claim 10 but in the opposite direction, and Loehndorf teaches of building an IP message with source address (first element), call id (call reference) and hop count for communicating between network nodes (col. 11, ll. 29-41).

Regarding claim 12, Armistead teaches of negotiating by sending acknowledgement message to the first element (initiating gateway) to switch (reroute) the call path (connection) (col. 7, ll. 45-col. 8, ll. 5). Loehndorf teaches of using the timer

and performing action before the timeout causes tear down of call due to lost packet (col. 13, ll. 44-65).

Regarding claim 14, it recites limitations to send message to another element in the chain of intermediary nodes of a network connection similar to the method in parent claim 8. This is similar to propagation of a message in backward direction through each node along the network connection as was well known in the art.

Regarding claim 16, Armistead teaches of second element (receiving gateway) is an ingress gateway (Fig. 5, items 36 and 40 depending on from which side the connection is referred to).

11. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Armistead and Loehndorf as applied to claim 12, 17 above, and further in view of Honeisen (US Patent Application Publication No. 2003/0115332 A1).

Regarding claim 13, Armistead and Loehndorf are not clear about media negotiation.

However, in the same field of communication, Honeisen teaches of media negotiation i.e. codec negotiation between sending and receiving devices along the signaling chain using Session Initiation Protocol (SIP) (Paragraphs 0002-0021 and elsewhere in the reference).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Armistead and Loehndorf to negotiate media capabilities between sending and receiving device including the network nodes in between as

taught by Honeisen "since there are many different codecs available, the transmitting terminal and the receiving terminal have to agree upon the codec(s) to be used in a session" (Honeisen, Paragraph 0002).

12. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Armistead as applied to claim 17 above, and further in view of Loehndorf, and further in view of Honeisen.

Regarding claim 19, Armistead is silent on details of common data inherent in call control messages using Internet Protocol (IP) based messages.

However, in the same field of communication, Loehndorf teaches of building an IP message with source address (first element), call id (call reference) and hop count for communicating between network nodes (col. 11, ll. 29-41) and Honeisen teaches of media negotiation i.e. codec negotiation between sending and receiving devices along the signaling chain using Session Initiation Protocol (SIP) which includes call reference and media negotiation protocols (codecs) (Paragraphs 0002-0021 and elsewhere in the reference).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the functionalities of Armistead, Loehndorf and Honeisen to use SIP protocols with media capabilities negotiation capabilities between sending and receiving device including the in between network nodes, "since there are many different codecs available, the transmitting terminal and the receiving terminal have to agree upon the codec(s) to be used in a session" (Honeisen, Paragraph 0002).

Regarding claim 20, it further recites the steps involved in codec negotiation as well known in the art. Honeisen teaches of such negotiation using multiple codecs and listing them, in Session Description Protocol of SIP, as supported and unsupported by all nodes involved in setting up connection to determine common codec i.e. media capability supported by all involved nodes and using the path that supports the negotiated capability (Paragraphs 0061-0118).

Allowable Subject Matter

13. Claims 15, 22, 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 15, it further recites receiving the response to the third message that was sent to the third element, sending a message to the first element to indicate that the second element is attempting to negotiate with another element other than the second element to reroute the call, and negotiating with the third element to reroute the call.

The closest prior art or record is Armistead as applied above, which fails to disclose the specific features.

The remaining prior art of record fails to teach or fairly suggest substantially modifying Armistead with these specific features in order to arrive at the invention as claimed in detail by the applicant.

Claim 22, it further recites receiving the message from a third element, the message including call reference to identify the call, hop count for tracking number of

packet switched network segments encountered by the message on a backward signaling channel, address data identifying the third element; incrementing the hop count, and altering the address data to identify first element.

The closest prior art or record is Armistead as applied above, which fails to disclose the specific features.

Another prior art of record Loehndorf teaches about these common data of call reference to identify the call, hop count for tracking number of packet switched network segments encountered by the message on a signaling channel, address data identifying the element; incrementing the hop count (col. 11, ll. 29-41).

Loehndorf does not teach of altering third element address i.e. source address to identify the first element.

The remaining prior art of record fails to teach or fairly suggest substantially modifying Armistead and Loehndorf with these specific features in order to arrive at the invention as claimed in detail by the applicant.

Claim 24, it further recites receiving responses to the message from multiple different elements in the call path, wherein the responses each includes a call reference that identifies the call, a hop count identifying a number of packet switched network segments between the first element and respective element that sent the response;

determining which response has a hop count that indicates the greatest number of packet switched network segments between the first element and the respective element that sent the response; and

negotiating with the respective element whose hop count indicated the greatest number of packet switched network segments in order to reroute the call to bypass the circuit switched network segment.

The closest prior art or record is Armistead as applied above, which fails to disclose the specific features.

Another prior art of record Loehndorf teaches about these common data of call reference to identify the call, hop count identifying number of packet switched network segments encountered by the message on a signaling channel between the receiving node (first element) and the sending node (col. 11, ll. 29-41).

The well know spanning tree protocol teaches of using number of hop count for identifying a number of packet switched network segments between the receiving (first) element and respective element that sent the response, and using hop count to figure out relative distance of each node that sent the response to node query from the receiving element (node) (determining which response has a hop count that indicates the greatest number of packet switched network segments between the first element and the respective element that sent the response).

The remaining prior art of record fails to teach or fairly suggest substantially modifying Armistead and Loehndorf with the specific feature of "negotiating with the respective element whose hop count indicated the greatest number of packet switched network segments in order to reroute the call to bypass the circuit switched network segment" in order to arrive at the invention as claimed in detail by the applicant.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent No. 6,192,045	Williams
US Patent No. 6,282,192	Murphy
US Patent No. 6,584,093	Salama
US Patent No. 6,680,952	Berg
US Patent No. 6,714,535	Herh
US Patent No. 6,856,612	Bjelland
US Patent No. 7,002,970	Veschi

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hemant Patel whose telephone number is 571-272-8620. The examiner can normally be reached on 8:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on 571-272-7547. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Hemant Patel
Examiner
Art Unit 2614

HSP

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FAN TSANG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600